

drivers that the brake signal allowed false alarms, whether or not intentional, might dilute the currently unambiguous message of the stop signal. The agency previously found that ATAT's device would render the stop lamp partially inoperative as a result of the same loss of unambiguous operation. There are no fundamental differences between the systems to cause the agency to change its determination or even to allow the agency to distinguish between them in a regulation.

Accordingly, NHTSA has conducted and concluded a technical review of the petition, and has determined that there is not a reasonable possibility that the amendment requested would be issued at the conclusion of a rulemaking proceeding. Accordingly, the petition by Baran Advanced Technologies, Ltd., for rulemaking to amend Standard No. 108 is denied.

Authority: 49 U.S.C. 30103; delegation of authority at 49 CFR 1.50 and 501.8.

Issued on: July 28, 1994.

Barry Felrice,

Associate Administrator for Rulemaking.

[FR Doc. 94-18802 Filed 8-2-94; 8:45 am]

BILLING CODE 4910-59-P

INTERSTATE COMMERCE COMMISSION

49 CFR Chapter X

[Ex Parte No. 274 (Sub-No. 13)]

Rail Abandonments—Use of Rights-of-Way as Trails—Supplemental Trails Act Procedures

AGENCY: Interstate Commerce Commission.

ACTION: Denial of petition for rulemaking.

SUMMARY: By petition filed March 29, 1994, the National Association of Reversionary Property Owners (NARPO) sought a rulemaking in order to amend the Commission's procedural rules concerning the Rails-to-Trails Program, 16 U.S.C. 1247(d). The Commission, however, has previously addressed similar arguments raised by NARPO. In a decision served February 21, 1990, the Commission, upon reconsideration of a decision served May 26, 1989, 54 FR 22970 (1989), declined to amend the rules implementing the National Trails System Act and found that the requirements sought by NARPO would be time-consuming, expensive, and burdensome and were not warranted given the Commission's limited involvement in trail use proposals and the purpose of the Trails Act, which is

to encourage and facilitate interim trail use.¹ The law applicable to our previous decisions has not changed. Therefore, NARPO's petition for rulemaking is denied.

FOR FURTHER INFORMATION CONTACT: Beryl Gordon, (202) 927-5610. [TDD for hearing impaired: (202) 927-5721.]

SUPPLEMENTARY INFORMATION:

Additional information is contained in the Commission's decision. To purchase a copy of the full decision, write to, call, or pick up in person from Dynamic Concepts, Inc., Room 2229, Interstate Commerce Commission Building, Washington, D.C. 20423. Telephone: (202) 289-4357/4359. [Assistance for the hearing impaired is available through TDD services (202) 927-5721.]

Decided: July 27, 1994.

By the Commission, Chairman McDonald, Vice Chairman Phillips, and Commissioners Simmons and Morgan.

Vernon A. Williams

Acting Secretary

[FR Doc. 94-18862 Filed 8-2-94; 8:45 am]

BILLING CODE FR-7035-01-P

DEPARTMENT OF THE INTERIOR

Fish And Wildlife Service

50 CFR Part 17

RIN 1018-AC63

Endangered and Threatened Wildlife and Plants; Proposed Endangered Status for Five Freshwater Mussels and Proposed Threatened Status for Two Freshwater Mussels From Eastern Gulf Slope Drainages of Alabama, Florida, and Georgia

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The Fish and Wildlife Service (Service) proposes to list seven freshwater mussels: The fat three-ridge (*Amblema neisleri*), shiny-rayed pocketbook (*Lampsilis subangulata*), Gulf moccasinshell (*Medionidus penicillatus*), Ochlockonee moccasinshell (*Medionidus simpsonianus*), and oval pigtoe (*Pleurobema pyriforme*) as endangered, and the Chipola slabshell (*Elliptio chipolaensis*) and purple bankclimber (*Elliptio sloatianus*) as threatened under the Endangered Species Act (Act) of 1973, as amended. These mussels are endemic to eastern Gulf Slope streams

draining the Apalachicola Region of southeast Alabama, southwest Georgia, and north Florida. They are currently known from localized portions of from one to four isolated marine river systems, mostly in the eastern portion of the Apalachicola Region.

Impoundments and deteriorating water and benthic (bottom) habitat quality resulting from channel modification, siltation, agricultural runoff, silvicultural activities, mining activities, pollutants, poor land use practices, increased urbanization, and waste discharges have resulted in the restriction and fragmentation of these mussels current ranges. In addition, the Service has little evidence to suggest that populations of these seven species of mussels are reproductively viable.

DATES: Comments from all interested parties must be received by November 1, 1994. Public hearing requests must be received by September 19, 1994.

ADDRESSES: Comments and materials concerning this proposal should be sent to the Field Supervisor, U.S. Fish and Wildlife Service, Jacksonville Field Office, 6620 Southpoint Drive South, Suite 310, Jacksonville, Florida 32216 (904/232-2580). Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Mr. Robert S. Butler at the above address.

SUPPLEMENTARY INFORMATION:

Background

The fat three-ridge, shiny-rayed pocketbook, Gulf moccasinshell, Ochlockonee moccasinshell, oval pigtoe, Chipola slabshell, and purple bankclimber are freshwater mussels endemic to eastern Gulf Slope streams draining the Apalachicola Region (streams from the Escambia to the Suwannee river systems in southeast Alabama, southwest Georgia and north Florida). The Apalachicola Region primarily drains the Coastal Plain Physiographic Province. Only the headwaters of the Flint and Chattahoochee rivers, in the Apalachicola River system, occur above the Fall Line in the Piedmont Physiographic Province in west-central Georgia. Streams draining the East Gulf Coastal Plain are generally low gradient and have substrates of sand, silty sand, mud, and gravel. Some streams, particularly in the Apalachicola River system, have coarser substrates of cobble, boulders, and bedrock in addition to areas with softer bed materials. The seven species of mussels being considered for listing inhabit

¹ Rail Abandonments—Use of Rights-Of-Way as Trails—Supplemental Trails Act Procedures, Ex Parte No. 274 (Sub-No. 13) (ICC served Feb. 21, 1990) at 1-2.

medium-sized streams to large rivers with substrates of silty sand, sand, or gravel, and mixtures of these substrates. All are generally found in areas with water currents, often in stream channels swept free of silt. The life histories of these seven species of mussels are unknown and little biological information is available.

The Apalachicola Region is known for its high level of endemicity, harboring nearly 30 species of endemic mussels (Butler 1989), at least a dozen fishes, over 20 aquatic snails, and nearly two dozen species of crayfish. In addition, several candidate species from the Service's animal notice of review published on November 21, 1991 (56 FR 58804) are also known from the Apalachicola Region, the majority being endemic to these drainages. One of these candidates, the Ochlockonee arc-mussel is thought to be extinct (Turgeon *et al.* 1988), last reported in the early 1930's (Williams and Butler, in press). A recent status survey for candidate species of mussels in the Apalachicola River system did not locate any populations of the winged spike and lined pocketbook, species endemic to this system that were last sighted in 1958 and 1967, respectively. Between 1991 and 1993, the Service's National Fisheries Research Center, now the National Biological Survey, Biological Science Center, in Gainesville, Florida, completed field surveys for mussels in both the Apalachicola (325 collections at 315 sites) and Ochlockonee (77 collections at 72 sites) river systems. These surveys are summarized by Butler (1993), and the information is sufficient to support a status recommendation of endangered for the fat three-ridge, shiny-rayed pocketbook, Gulf moccasinshell, Ochlockonee moccasinshell, and oval pigtoe, and a status recommendation of threatened for the Chipola slabshell and purple bankclimber. Common and scientific nomenclature used in this rule follows that suggested by Turgeon *et al.* (1988).

The fat three-ridge (*Amblema neislerii*) is a medium-sized to large, subquadrate, inflated, solid, and heavy shelled mussel that reaches a length of 102 millimeters (4.0 inches). Older individuals are often so inflated that their width approximates their length. The dark brown to black shell is strongly sculptured with seven to eight prominent horizontal parallel ridges. Internally, there are two subequal pseudocardinal teeth in the left valve and one large and one small tooth in the right valve. The nacre is bluish white to light purplish and very iridescent. The

Service considers *Unio neislerii* to be a synonym of *Amblema neislerii*.

This taxon was originally assigned to the genera *Quadrula* and *Crenodonta* by Simpson (1914) and Clench and Turner (1956), respectively. Subsequent investigators have placed the fat three-ridge in the genus *Amblema*. The fat three-ridge was described from the Flint River, Macon County, Georgia, and it historically occurred in the mainstems of the lower two-thirds of the Flint, the lower one-third of the Chipola, and in the Apalachicola rivers (Clench and Turner 1956, Butler 1993). Since 1981, no live specimens have been found in the Flint River. Its present range is restricted to six localities in Florida, three each in the Apalachicola River mainstem and the lowermost Chipola River mainstem (Butler 1993). Only two of these localities have sizable populations, which number in the dozens of specimens. However, the viability of these populations of the fat three-ridge is not known. The fat three-ridge has a very low tolerance for impoundments.

The shiny-rayed pocketbook (*Lampsilis subangulata*) is a medium-sized mussel that reaches approximately 85 mm (3.3 in) in length. The shell is subelliptical, with broad, somewhat inflated umbos and a rounded posterior ridge. The fairly thin but solid shell is smooth and shiny, and light yellowish brown with fairly wide bright emerald green rays over its entire length. Older individuals appear much darker brown with obscure raying. Internally, the pseudocardinal teeth are double and fairly large and erect in the left valve with one large tooth and one spatulate tooth in the right valve. The nacre is white, with some individuals exhibiting a salmon tint in the vicinity of the umbonal cavity. The Service recognizes *Unio subangulatus* and *Unio kirklandianus* as synonyms of *Lampsilis subangulata*.

The shiny-rayed pocketbook was described from the Chattahoochee River, Columbus, Georgia. Historically, this mussel occurred at 18 different Flint River system localities including numerous tributaries and several mainstem sites, 1 Chattahoochee River mainstem site and 6 sites in some of its tributaries, 2 sites in an Apalachicola River tributary (Mosquito Creek), a couple of Chipola River tributary sites and several localities in the mainstem above Dead Lake, and several sites in the Ochlockonee River mainstem from Talquin Reservoir upstream to Georgia and in a couple of its tributaries (Clench and Turner 1956, Butler 1993). The 19 populations presently known are restricted to: a single Uchee Creek

system site in the Chattahoochee River system of Alabama, 11 scattered sites in Flint River tributaries, 2 sites in the Chipola River system including a mainstem and tributary (Dry Creek) site, and 5 Ochlockonee River mainstem and tributary sites in the upper half of the system (Butler 1993). The shiny-rayed pocketbook presently occupies about two-thirds of its original range. Population sizes numbered in the dozens of individuals at a few historical sites in both systems. However, recent collections are generally represented by only a few individuals, and evidence of any production is scarce. This riverine species does not tolerate impoundments.

The Gulf moccasinshell (*Medionidus penicillatus*), a small mussel, reaches a length of about 55 mm (2.2 in), is elongate-elliptical or rhomboidal in shape and fairly inflated, and has relatively thin valves. The ventral margin is nearly straight or slightly rounded. The posterior ridge is rounded to slightly angled and intersects the end of the shell at the base line. Females tend to have the posterior point above the ventral margin and are somewhat more inflated than males. Sculpturing consists of a series of thin, radially-oriented plications along the length of the posterior slope. The remainder of the shell surface is smooth and yellowish to greenish brown with fine, typically interrupted green rays. The left valve has two stubby pseudocardinal and two arcuate lateral teeth and the right valve has one pseudocardinal and one lateral tooth. Nacre color is smokey purple or greenish and slightly iridescent at the posterior end. The Service recognizes *Unio penicillatus* and *Unio kingi* as synonyms of *Medionidus penicillatus*.

Much confusion clouds the taxonomy of *Medionidus* species in the Apalachicola Region. In the Chipola River system, van der Schalie (1940) recorded two species of *Medionidus* (*M. kingi* and *M. penicillatus*). Clench and Turner (1956) synonymized *M. kingi* and two other nominate species, the Ochlockonee moccasinshell and Suwannee moccasinshell with the Gulf moccasinshell, an arrangement also followed by Burch (1975). Johnson (1970) erroneously reported both the Gulf moccasinshell and Suwannee moccasinshell from the Apalachicola River system and the Suwannee moccasinshell from the Ochlockonee and Suwannee rivers as well. In his monograph on *Medionidus*, Johnson (1977) recognized the validity of the Gulf moccasinshell, Ochlockonee moccasinshell, and Suwannee moccasinshell from Apalachicola

Region streams based on shell characters. Turgeon *et al.* (1988) also recognized the validity of these three allopatrically distributed mussels.

The Gulf moccasinshell was described from three sites in the Apalachicola River system in Georgia: the Chattahoochee River near Columbus and Atlanta, and the Flint River near Albany. The historical distribution of this diminutive species included 18 sites in the tributaries and mainstems of the Flint and Chattahoochee rivers, one Apalachicola River site, and 12 sites in the Chipola River system. The Gulf moccasinshell is known from 38 historical sites and has been eliminated from about three-quarters of its original range. It persists at eight tributary sites in the middle Flint River system, and in Econfinia Creek (Butler 1993) but has not been collected in the Choctawhatchee River system since the early 1930's. Large populations (60+ individuals) were documented at several of historical sites in the Chipola River system (van der Schalie 1940); they probably occurred in similar numbers at other sites as well. However, recent collections of the Gulf moccasinshell indicate that only small populations persist today. The Service's recent survey of the Apalachicola River system located a total of only 10 specimens. Given the small sample sizes, the population viability of this species is questionable. The Gulf moccasinshell does not tolerate impoundments.

The Ochlockonee moccasinshell (*Medionidus simpsonianus*) is a small species, generally under 55 mm (2.5 in) in length. It is slightly elongate-elliptical in outline with the posterior end obtusely rounded at the shells median line and the ventral margin broadly curved. The posterior ridge is moderately angular and covered in its entire length with well developed, irregular ridges. Sculpturing may also extend onto the disk below the ridge and the surface texture is smooth. The color is light brown to yellowish green, with dark green rays formed by a series of connecting chevrons or undulating lines across the length of the shell. Internal characters include thin straight lateral teeth and compressed pseudocardinal teeth. There are two laterals and two pseudocardinals in the left valve and one lateral and one pseudocardinal in the right valve. The nacre is bluish white. The Service considers *Unio simpsonianus* to be a synonym of *Medionidus simpsonianus*.

The Ochlockonee moccasinshell was described from the Ochlockonee River, Calvary, Grady County, Georgia. This mussel was known historically from six sites in the mainstem above Talquin

Reservoir, three each in Georgia and Florida, and single site locations on the lower mainstem below Talquin Reservoir and in the Little River (Johnson 1977, Butler 1993). However, since 1974, the Ochlockonee moccasinshell has been represented by only two live individuals (both found as individuals at a single site in the mainstem above Talquin Reservoir in Florida in the past 5 years) despite concerted efforts by numerous investigators to locate additional populations. Four weathered dead shells were found at other mainstem sites in the past few years, including two sites in Georgia and one site in Florida. Once a fairly common species, with some populations numbering in the dozens of individuals, the Ochlockonee moccasinshell is now one of the rarest mussels in North America. This narrow endemic does not tolerate impoundment conditions.

The oval pigtoe (*Pleurobema pyriforme*) is a small to medium-sized mussel that attains a length of about 60 mm (2.4 in). The shell is suboviform compressed, with a shiny smooth epidermis. The periostracum is yellowish, chestnut, or dark brown, rayless, and with distinct growth lines. The posterior slope is biangulate and forms a blunt point on the posterior margin. The umbos are slightly elevated above the hingeline. As is typical of the genus, no sexual dimorphism is displayed in shell characters. Internally the pseudocardinal teeth are fairly large, crenulate and double in both valves. The lateral teeth are somewhat shortened, arcuate and double in each valve. Nacre color varies from salmon to bluish white and is iridescent posteriorly. Variation in this species has led to the description of various nominal species. The Service recognizes *Unio pyriforme*, *Unio modicus*, *Unio bulbosus*, *Unio amabilis*, *Unio reclusum*, *Unio harperi*, and *Pleurobema simpsonianus* as synonyms of *Pleurobema pyriforme*.

The oval pigtoe was described from the Chattahoochee River, near Columbus, Georgia. Historically, this species was one of the most widely distributed mussels endemic to the Apalachicola Region. It occurred throughout the mainstems and several tributaries of both the Flint (16 sites) and Chipola (10 sites) river systems, at 5 sites in the Chattahoochee River system including one mainstem site, all associated with the Fall Line in Alabama and Georgia, at 6 sites in the Ochlockonee River mainstem above Talquin Reservoir in Florida and Georgia, at a single site on the lower Suwannee River and 15 sites in the

upper Santa Fe River system, its major tributary, in north Florida, and at a site in Econfinia Creek, in northwest Florida (Clench and Turner 1956, Butler 1993). Fifty-four total historical sites are known. Existing populations have been verified from 21 sites, including 5 scattered tributaries (7 sites) of the Flint River system and a single mainstem site, 4 Chipola River sites and 1 in its tributary Dry Creek, 6 upper Ochlockonee River mainstem sites, and single sites in both the New River in the upper Santa Fe River system, and in Econfinia Creek (Butler 1993).

Recent surveys have documented the extirpation of the oval pigtoe from approximately two-thirds of its historical range, with no populations persisting in Alabama. Once a species of localized abundance (Clench and Turner 1956), oval pigtoe populations sometimes numbered in the hundreds (van der Schalie 1940). However, recent collections of the oval pigtoe are generally small, and rarely exceed a dozen individuals at any one site. The Service in its recent survey located only a single specimen from the entire Flint River mainstem. It is not known whether existing populations are sufficient in numbers to sustain the species. The oval pigtoe does not tolerate impoundments.

The Chipola slabshell (*Elliptio chipolaensis*) is a medium-sized species reaching a length of about 85 mm (3.3 in). The shell is ovate to subelliptical, somewhat inflated and with the posterior ridge starting out rounded but flattening to form a prominent biangulate margin. The shell surface is smooth and chestnut in color. Dark brown coloration may appear in the umbonal region and the remaining surface may exhibit alternating light and dark bands. The umbos are prominent, well above the hingeline. Internally, the umbonal cavity is rather deep. The lateral teeth are long, slender, and slightly curved, with two in the left and one in the right valve. The pseudocardinal teeth are compressed and crenulate, with two in the left and one in the right valve. Nacre color is salmon, becoming more intense dorsally and somewhat iridescent posteriorly. The Service considers *Unio chipolaensis* to be a synonym of *Elliptio chipolaensis*.

The Chipola slabshell was described from the Chipola River in Florida. Clench and Turner (1956) restricted the type locality to the Chipola River, 1 mile north of Marianna, Jackson County, Florida. Until recently, this species was considered endemic to the Chipola River system, occurring in the mainstem above Dead Lake and a few of the larger

tributaries, all in Florida (van der Schalie 1940, Clench and Turner 1956). A single record of this mussel from a tributary of the Chattahoochee River in extreme southeastern Alabama has been verified by Butler (1993). These localities bring the total number of historic sites the Chipola slabshell inhabited to nine. The Chipola slabshell is known to persist only at four Chipola River mainstem sites and in Dry Creek, with the populations from Spring Creek (Chipola River system) and the Chattahoochee River system apparently extirpated. The numbers of specimens from recent collections indicate that populations are generally small, except at one site in the lower mainstem where three dozen specimens were recently observed (W. McCullagh, pers. comm.). The Chipola slabshell has the most restricted range of the Apalachicola Region mussels. This species does not tolerate impoundments, but is more tolerant of silt than the other species of mussels.

The purple bankclimber (*Elliptoideus sloatianus*) is a large, heavy shelled, strongly sculptured mussel reaching a length of about 200 mm (8.0 in). A well developed posterior ridge extends from the umbos to the posterior ventral margin of the shell. The posterior slope and the disk just anterior to the posterior ridge are sculptured by several irregular ridges that vary greatly in development. Umbos are low, extending just above the dorsal margin of the shell. Internally, there is one pseudocardinal tooth in the right valve and two in the left valve. The lateral teeth are very thick and slightly curved. Nacre color is whitish near the center of the shell becoming deep purple towards the margin, and very iridescent posteriorly. The Service recognizes *Unio sloatianus*, *Unio atomarginatus*, *Unio aratus*, and *Unio plectophorus* as synonyms of *Elliptoideus sloatianus*. The purple bankclimber was described from the Chattahoochee River and its type locality is restricted to the Chattahoochee River at Columbus, Georgia (Clench and Turner 1956).

Historically, the purple bankclimber was found at 14 sites in the Flint River system; 3 sites on the Chipola River mainstem (Dead Lake vicinity); 2 sites on the Apalachicola River mainstem; the type locality on the Chattahoochee River; and at 4 sites along the lower two-thirds of the Ochlockonee River mainstem in Florida and Georgia (Clench and Turner 1956, Butler 1993). A total of 24 historic sites are known for this species.

This large mussel persists at 10 sites in the lower two-thirds of the Flint River mainstem, at 4 sites in the

Apalachicola River, and at 8 sites in the Ochlockonee River mostly above Talquin Reservoir (Butler 1993). Although the purple bankclimber is currently known from only two fewer total sites than before, the species has nevertheless experienced a significant reduction in its total range. No specimens in recent years have been reported from the Chipola River and the species has not been collected in the Chattahoochee River for several decades. In addition, Flint River tributary populations appear to have been totally eliminated. At a few sites in the Florida portion of the Ochlockonee River, the purple bankclimber may number in the dozens of individuals. This species of mussel does not tolerate impoundment conditions well.

On November 18, 1993, the Service notified (by mail; 72 letters) Federal and State agencies, local governments, and interested individuals that a status review was being conducted for these seven species. A total of ten comments was received as a result of this notification. The Florida Division Office of the Federal Highway Administration replied that no bridge replacement projects were currently being planned in northwest Florida, and it was anticipated that any future bridge replacement projects would have no effect on these species based on the localized and short-term impacts associated with these activities. The Federal Energy Regulatory Commission reported that it licenses 12 hydroelectric development projects in the study area, and that any issues concerning these species could best be coordinated with the Office of Hydropower Licensing. The Fayette County (Georgia) Board of Commissioners expressed concern over the Service's contention that impoundments have played a major role in the decline of these species, but they did not oppose the listing. The Alachua County (Florida) Environmental Protection Department, after consultation with a Florida Museum of Natural History malacologist, indicated that none of these seven species of mussels are known or were suspected to occur in Alachua county. The Florida Game and Fresh Water Fish Commission expressed concern with how its plan to dredge the mouths of several silted-in streams along the Apalachicola River to improve access to striped bass might have on these mussels. The Georgia Department of Natural Resources (GDNR) had some questions concerning the distribution of these mussels, particularly in Georgia. The Florida Natural Areas Inventory supported the Service's listing of these

species and provided information on Econfina Creek watershed where the Gulf moccasinshell and oval pigtoe occur. Three experts on freshwater mussels supported the potential Federal protection of these species. No objections to the proposed listing of these species were received.

Previous Federal Action

The purple bankclimber, oval pigtoe, shiny-rayed pocketbook, and fat three-ridge are included as category 2 species in the Service's notices of review for animal candidates that were published in the **Federal Register** on January 6, 1989 (54 FR 554) and on November 21, 1991 (56 FR 58804). A category 2 species is one that may be in need of listing as endangered or threatened, but for which conclusive data on biological vulnerability and threat are not currently available to support a proposed rule. Based on status surveys that were completed in 1993, the Service has determined that all of the species included in this proposal now qualify as category 1 species.

Summary of Factors Affecting the Species

Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act set forth the procedures for adding species to the Federal lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to the fat three-ridge (*Amblema neislerii*), shiny-rayed pocketbook (*Lampsilis subangulata*), Gulf moccasinshell (*Medionidus penicillis*), Ochlockonee moccasinshell (*Medionidus simpsonianus*), oval pigtoe (*Pleurobema pyriforme*), Chipola slabshell (*Elliptio chipolaensis*), and purple bankclimber (*Elliptoideus sloatianus*) are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

These species of mussels are endemic to the eastern Gulf Slope streams draining the Apalachicola Region of southeast Alabama, southwest Georgia and north Florida. They are currently found in localized portions of from one to four isolated marine river systems, mostly in the eastern portion of the Apalachicola Region. These species have been rendered vulnerable to extinction by the significant loss of habitat within their restricted ranges in Apalachicola Region streams. Factors

contributing to this habitat loss are: impoundments and deteriorating water and benthic habitat quality resulting from channel modification, siltation, agricultural runoff from crop monoculture and poultry farms, silvicultural activities, mining activities, pollutants, poor land use practices, increased urbanization, and municipal and industrial waste discharges.

A consideration of the effects of these impacts upon fishes is of critical importance in evaluating the well-being of mussels. Mussels and fishes are inextricably linked ecologically; most larval mussels (glochidia) are obligate parasites of specific fishes. Therefore, these various impacts may have resulted in the elimination of certain fishes that serve as potential host species for these mussels.

Impoundments have altered a significant portion of the free-flowing big river habitats of the Apalachicola and Ochlockonee river systems in which most of these species occur. Stream habitat is destroyed by the conversion of free-flowing streams to man-made lakes and ponds. In addition to riverine habitat destruction, dams block the passage of certain migratory fishes which serve as hosts for one or more of these seven mussel species. None of these seven mussel species are known to reproduce in impoundments.

The Apalachicola River system has been especially impacted by the construction of numerous mainstem dams. This is true for the Chattahoochee River, which has nine major dams and four locks and dams along its lower mainstem to facilitate barge traffic. Additional major dams are located on the Flint River mainstem (e.g., Blackshear Reservoir) and on the Apalachicola River where it is formed by the confluence of the Chattahoochee and Flint Rivers (Seminole Reservoir). Smaller dams are located on major rivers and tributaries throughout the Apalachicola River system and in other regional streams. Although pre-impoundment records are generally unknown for the fat three-ridge, shiny-rayed pocketbook, Gulf moccasinshell, oval pigtoe, and purple bankclimber in the Apalachicola River system, numerous populations of these species were possibly destroyed as a result of impoundments. It has been decades since any live specimens of these five species were found along the Chattahoochee River mainstem; the type locality for the shiny-rayed pocketbook, Gulf moccasinshell, oval pigtoe, and purple bankclimber.

Talquin Reservoir, an impoundment on the Ochlockonee River formed by the closure of Jackson Bluff Dam, inundated

a significant reach of the middle portion of the river mainstem. Pre-impoundment records for the shiny-rayed pocketbook, Ochlockonee moccasinshell, oval pigtoe, and purple bankclimber from a site at the upstream end of Talquin Reservoir exist in museum collections. Most of these mussel species once had sizable populations at this site. Undocumented populations of these four species were probably destroyed by the filling of Talquin Reservoir.

In addition to riverine habitat being destroyed by Talquin Reservoir, the river downstream of Jackson Bluff Dam shows noticeable signs of being impacted by sediment deposition. Riverine mussels such as the shiny-rayed pocketbook, Ochlockonee moccasinshell, oval pigtoe, and purple bankclimber, are nearly absent in sizable stretches of this heavily silted river. One site recently sampled by the Service (with SCUBA gear) had deposits of detritus and silt sediments. The river lacked flows adequate to flush the channel of silty sediments. Potential lower mainstem channel habitat of the shiny-rayed pocketbook, Ochlockonee moccasinshell, oval pigtoe, and purple bankclimber are being impacted by this deposition.

Navigation channel maintenance in the Chattahoochee and Apalachicola Rivers has destroyed long stretches of benthic habitat. In addition to the damage caused by the mechanical removal of tons of substrate, these activities increase sedimentation in downstream areas by resuspending silt fines which smother benthic organisms. Dredging activities may also resuspend contaminants that are bound to sediments, thus potentially exposing aquatic organisms to released toxicants. Potential host fishes for the fat three-ridge and purple bankclimber in the Apalachicola River may also be disrupted by channel modifications. Maintenance operations in the Apalachicola River mainstem continue to disrupt habitat for these two species. A third mussel, the Gulf moccasinshell, has apparently been extirpated from the Apalachicola River.

Gravel mining operations have been observed in various portions of the Apalachicola Region. Primary stream impacts associated with gravel mining include stream channel modifications (alterations of habitat, flow patterns, and sediment transport), water quality modifications, aquatic invertebrate population changes and changes in fish populations (alteration and elimination of spawning and nursery habitats, and food web disruptions) (Kanehl and Lyons 1992). Channel degradation

caused by gravel mining has been implicated in the destruction of mussel populations (Hartfield 1993, Grace and Buchanan 1981). In a study by Grace and Buchanan (1981), mussels were still absent from an in-stream dredged area 15 years after mining took place. Siltation is particularly increased during the mining of in-stream gravel and/or during the washing of gravel which rinses silt and debris back into the stream. Gravel from the Chattahoochee River is used for various purposes including landscaping throughout the region. Jenkinson (1973) recorded the shiny-rayed pocketbook, oval pigtoe, Gulf moccasinshell, and 10 other mussel species in Little Uchee Creek (Chattahoochee River system) in Alabama. The creek now has active in-stream gravel mines; only a few shell fragments were found during a recent survey by the Service.

Municipal and industrial pollutants are widespread in Apalachicola Region streams. Many municipal waste water treatment plants provide only secondary treatment of waste water and three plants discharging wastes into the New River (Suwannee River system) threaten that stream's population of the oval pigtoe. From 1955 to 1977, an estimated 950,000,000 gallons of chemical-laden solutions were discharged into the Flint River from a Department of Defense facility in Albany, Georgia (P. Laumeyer, Service, pers. comm.). Service biologists surveyed a stretch of the Flint River where dozens of purple bankclimbers had been killed by an unknown pollutant. Hundreds of round washboards (*Megalonia boykiniana*) were found dead in the upper Flint River (C. Coney, Los Angeles County Museum, pers. comm.) and various beds of dead mussels (species unknown) were observed in the Suwannee River (L. Parker, Service, pers. comm.). A battery plant operation threatens water quality in the Chipola River system, which harbors populations of the fat three-ridge, shiny-rayed pocketbook, oval pigtoe, and Chipola slabshell.

Various agricultural practices conducted in the Apalachicola Region have contributed to stream and habitat degradation. A Soil Conservation Service (1993) study of a small agricultural watershed area in the middle Flint River system reported an average of 35.44 metric tons per hectare per year (15.8 tons per acre per year) of sediment loading into area waters; 97% of the total sedimentation in the watershed was generated from agricultural runoff. Agricultural runoff, in the form of organophosphate or carbamate pesticides, has been implicated in the die-off of populations

of freshwater mussels (J. Fleming, National Biological Survey, unpub. data). The poultry industry is expanding operations into the Apalachicola Region, particularly in the watersheds of the upper Apalachicola River system. Runoff from chicken farms causes oxygen depletion in streams and has been implicated in fish and mussel die-offs in Alabama (U.S. Fish and Wildlife Service 1993). Feedlots are also another source of pollution in localized portions of the region's streams. Large dairy farms located in the Suwannee River watershed also contribute to the pollution of this system's waters.

Erosion from poor land use practices causes extensive loss of topsoil and the subsequent siltation of stream bottoms. Sources of siltation include timber clearcutting and other silvicultural activities, clearing of riparian vegetation for agricultural purposes, and those construction and mining practices that allow exposed earth to enter streams. Light to moderate levels of siltation are common in many of the streams in the Apalachicola Region that still have populations of these seven mussel species. Heavily silted streams were observed by Service biologists in numerous tributaries of the Chattahoochee and upper Flint Rivers, particularly those draining the Piedmont Physiographic Province, which is well known for its highly erodible soils. Stream banks devoid of riparian vegetation commonly slough off into stream channels. Several clearcuts have been observed in watersheds of the middle Apalachicola River system, some with inadequate riparian buffer strips (J. Brim-Box, pers. comm.). A disregard for maintaining riparian buffers during silvicultural activities threatens streams throughout the Apalachicola Region. Continued siltation and sedimentation of these streams may result in a depauperate fish fauna, reducing populations at many sites to those dominated by species tolerant of degraded habitats. The negative effects of silt on benthic fishes were summarized by Burkhead and Jenkins (1991). Siltation reduces habitat heterogeneity and increases fish egg and larval mortality, abrades organisms, and alters macrobenthic communities.

The health of these seven mussel species is directly tied to benthic habitat quality. The effects of siltation on freshwater mussels is more devastating than on fishes due to the sedentary nature of mussels. Ellis (1936) conducted experiments on the effects of silt on mussels and determined that most mussels tested died from silt deposits of one quarter to one inch. Silt also transfers organic substances into

streams, adversely affecting stream habitat and water quality by producing increased and localized enrichment impacts (Ellis 1936).

Artifact and fossil collectors regularly work streams in various portions of the Apalachicola Region and have been known to use suction dredges to scour benthic habitats, thus increasing siltation downstream. A study on the effects of suction gold dredging on stream invertebrates (Harvey 1986) concluded that impacts from these activities are more severe in streams with soft substrates, which are typical for most Apalachicola Region streams where these mussels occur.

Much non-agricultural and non-silvicultural habitat degradation in the upper Apalachicola River system watershed is attributed to increased urbanization, particularly in the metropolitan areas of Atlanta, Columbus, and Albany. This current high rate of development is resulting in the conversion of farmland in areas relatively remote from these cities. Associated with increased development and land clearing is increased siltation from erosion, accelerated runoff and transport of pollutants in stormwater, and increased discharge of effluents.

The tributaries harboring populations of these seven mussel species are crisscrossed by numerous road and railroad bridges. These crossings are potential sites for accidental spills of toxic materials into streams. The large number of bridge crossings in the Apalachicola Region makes it probable that such a spill might occur in the future.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes.

The fat three-ridge is a potential target species for the cultured pearl industry. Currently a congener (the three-ridge, *Amblema plicata*) is heavily utilized as a source of shell for pearl nuclei in more northern rivers. Due to a tremendous increase in the price of shell, the harvesting of shell beds has resulted in the scouting of larger drainages in the Apalachicola Region for potential sources of shell. Although prices have decreased since 1992, future increases in shell price and competition for harvestable populations can not be ruled out. Biological supply companies have utilized the Flint and Ochlockonee rivers as sources for larger mussel specimens, including the purple bankclimber and possibly the fat three-ridge, to sell to academic institutions for use in laboratory studies. Supply company representatives have contacted Service biologists in hopes of obtaining

information on new, unexploited mussel populations in the Apalachicola Region. On one recent occasion, approximately 10,000 large mussel specimens, presumably including the purple bankclimber and possibly the fat three-ridge, were harvested from the Flint River near Bainbridge for this purpose (J. Brim-Box, pers. comm.). Some of these species are a potential source of raw material for the polished chip industry. Costume jewelry crafted from purple bankclimber shells has been observed in arts and crafts fairs in the Southeast. Unregulated harvest of the fat three-ridge and purple bankclimber for these purposes, if unchecked, could decimate their remaining populations. Small and/or thin-shelled mussel species, such as the other five mussels considered here, are not known to be utilized commercially.

There are a large number of shell clubs in Florida and surrounding States. Both national and international meetings for amateur and professional malacologists are held in this area, and generally include organized field collecting trips to a variety of habitats. The attraction of large numbers of people interested in the study and collection of mollusks increases the potential for overcollection of these mussels. These species, particularly the larger ones, are potential bait species, and are susceptible to harvesting especially during low-flow periods. Publication of this rule will inform the general public as to the presence of these seven mussels in Apalachicola Region streams. The rarity of these mussels potentially makes them more appealing to shell collectors. Thus, revealing specific stream reaches harboring these species could pose a threat from such collectors. Federal protection would serve to minimize adverse population impacts from illegal take.

C. Disease or Predation.

Although diseases of freshwater mussels are virtually unknown, the periodic dieoff of mussel populations in several primarily midwestern rivers in recent years may be due to unidentified diseases. Juvenile and adult mussels serve as prey for various animals, and the muskrat has been implicated in jeopardizing recovery of listed mussels (Neves and Odum 1989). Muskrats do not occur with regularity on Coastal Plain streams, where most of these mussels exist. However, Piedmont populations of the shiny-rayed pocketbook and oval pigtoe in the upper Flint River system may be subjected to some degree of muskrat predation.

D. The Inadequacy of Existing Regulatory Mechanisms

A scientific collecting permit is required by the State of Georgia to collect mussels for scientific purposes. However, dredging, brailing, or any form of mechanical harvest of mussels is illegal. In addition, a size limit has been placed on mussels harvested commercially in Georgia. Handpicking mussels requires only a resident or non-resident fishing license. In the State of Florida an individual must purchase a fishing license to collect mussels. Despite these permit requirements, there are no restrictions on the seasonality or sites of harvest, quantity, or species of mussels collected in Florida or Georgia. Alabama has recently imposed a set of guidelines concerning commercial harvest of mussels, including species-specific size limits, restricted areas for harvest, and closed seasons. Existing authorities available to protect aquatic systems, such as the Clean Water Act, administered by the Environmental Protection Agency (EPA) and the Army Corps of Engineers, have not been fully utilized and may have led to the degradation of aquatic environments in the Southeast Region, thus resulting in a decline of aquatic species. If these seven species are listed under the Act, it would provide protection under section 9 of the Act by prohibiting the take of these species except under Federal permit. Further, listing will require consultation with the EPA in relationship to water quality criteria, standards, and National Pollution Discharge Elimination System permits under the Clean Water Act, and implementation of actions to recover the species.

E. Other Natural or Manmade Factors Affecting Its Continued Existence

The range of these seven mussel species has been fragmented, and significant portions of the Apalachicola and Ochlockonee river systems have been permanently altered by various reservoirs. Many of the streams these species inhabit exhibit moderate to heavy degradation from poor land use practices. These factors have caused local extirpation and fragmentation of most of these species' populations. It is not known how many populations of these seven species are viable, but few juveniles have been observed in recent years. The restricted distribution of these seven mussels makes them vulnerable to extirpation from catastrophic events, such as toxic chemical spills.

The introduced Asian clam (*Corbicula fluminea*) has invaded nearly all of the

river systems in which these mussels occur, competing with native mussels for nutrients and space. Densities of Asian clams are sometimes heavy in Apalachicola Region streams, with estimates running from approximately one hundred per square meter (Flint River, Sickel 1973) to thousands per square meter (Santa Fe River, Bass and Hitt 1974). In some streams the substrate has changed from one of a fairly homogeneous silty sand or sand to one with a gravel-like composition comprised of huge numbers of live and dead Asian clam shells. In some of these streams, the Gulf moccasinshell and Ochlockonee moccasinshell were once common but are now extirpated or severely reduced in numbers. This exotic species may be particularly competitive with small native mussels such as the diminutive moccasinshells.

In developing this rule, the Service has assessed the best scientific and commercial information available regarding the past, present, and future threats faced by these seven mussels. Based upon these evaluations, the preferred action is to list the fat three-ridge, shiny-rayed pocketbook, oval pigtoe, Gulf moccasinshell, and Ochlockonee moccasinshell as endangered and the Chipola slabshell and purple bankclimber as threatened. These seven mussel species are endemic to the Apalachicola Region in southeast Alabama, southwest Georgia, and north Florida, where they occur in from one to four isolated marine river systems. The fat three-ridge, Chipola slabshell, and Ochlockonee moccasinshell are endemic to single drainages, the former two species to the Apalachicola and the latter species to the Ochlockonee river systems. The shiny-rayed pocketbook and purple bankclimber are restricted to both the Apalachicola and Ochlockonee river systems, while the oval pigtoe is found in these two rivers in addition to the Suwannee River and Econfinia Creek systems. The Gulf moccasinshell is now restricted to the Apalachicola River system and Econfinia Creek.

These species have been rendered vulnerable to extinction by significant loss of habitat and severe range restriction. The restricted distribution of these seven species also makes localized populations susceptible to catastrophic events and increased pressures from take.

Critical Habitat

Section 4(a)(3) of the Act, as amended, and implementing regulations (50 CFR 424.12) require that, to the maximum extent prudent and determinable, the Secretary designate

critical habitat at the time the species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for these species. Service regulations (50 CFR 424.12(a)(1)) state that designation of critical habitat is not prudent when one or both of the following situations exist—(1) The species is threatened by taking or other human activity, and identification of critical habitat can be expected to increase the degree of threat to the species, or (2) such designation of critical habitat would not be beneficial to the species. Such a determination would result in no known benefit to these species, and designation of critical habitat could further increase the threat of collecting or vandalism.

Regulations promulgated for implementing section 7 provide for both a jeopardy standard, based on listing alone, and for a destruction or adverse modification standard, in cases where critical habitat has been designated. The fat three-ridge, shiny-rayed pocketbook, Gulf moccasinshell, Ochlockonee moccasinshell, oval pigtoe, Chipola slabshell, and purple bankclimber occupy very restricted stream reaches. Any significant adverse modification or destruction of their habitat would likely jeopardize their continued existence. Therefore, no additional protection for the species would accrue from critical habitat designation that would not also accrue from listing these species. If these are listed, the Service believes that protection of their habitat can be accomplished through the section 7 jeopardy standard, and through section 9 prohibitions against take.

The publication of critical habitat maps in the *Federal Register* and local newspapers and other publicity accompanying critical habitat designation could increase the harvest or collection threat and also increase the potential for vandalism during the critical habitat designation process.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. The protection required of Federal agencies and the

prohibitions against taking and harm are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) requires Federal agencies to confer informally with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

Federal involvement is expected to include the EPA through the Clean Water Act's provisions for pesticide registration and waste management actions. The Corps of Engineers will consider these species in project planning and operation, and during the permit review process. The Federal Energy Regulatory Commission will consider these species prior to the relicensing of hydropower dams. The Federal Highway Administration will consider impacts of federally funded bridge and road construction projects when known habitat may be impacted. Continuing development within the Apalachicola Region may involve the Farmers Home Administration and their loan programs. The Soil Conservation Service will consider the species during project planning and under their farmer's assistance programs. The Forest Service will consider downstream impacts to habitat of the fat three-ridge and purple bankclimber when planning or implementing silvicultural, recreational, or other programs in lands adjacent the lower mainstem of the Apalachicola River, and to habitat of the purple bankclimber when planning or implementing these activities in lands adjacent the lower mainstem of the Ochlockonee River, both drainages are in the Apalachicola National Forest.

The Act and implementing regulations found at 50 CFR 17.21 for endangered species, and 17.21 and 17.31 for threatened species set forth a series of general prohibitions and exceptions that apply to all endangered

and threatened wildlife. These prohibitions, in part, make it illegal for any person subject to jurisdiction of the United States to take (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, or collect; or attempt any of these), import or export, ship in interstate commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving endangered or threatened wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22, 17.23, and 17.32. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and/or for incidental take in connection with otherwise lawful activities. For threatened species, there are also permits for zoological exhibition, educational purposes, or special purposes consistent with the purpose of the Act.

In some instances, permits may be issued for a specified time to relieve undue economic hardship that would be suffered if such relief were not available. However, since none of the species in this proposal are currently in active trade, no such permits are expected.

Public Comments Solicited

The Service intends that any final action resulting from these proposals will be as accurate and as effective as possible. Therefore, comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning these proposed rules are hereby solicited. Comments particularly are sought concerning:

- (1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to the species;
- (2) The location of any additional populations of the species and the reasons why any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act;
- (3) Additional information concerning the range, distribution, and population size of the species; and
- (4) Current or planned activities in the subject areas and their possible impacts on the species.

Final promulgation of the regulations on these species will take into consideration the comments and any additional information received by the Service, and such communication may lead to final regulations that differ from this proposal.

The Act provides for a public hearing on this proposal, if requested. Requests must be received within 45 days of the date of publication of this proposal. Such requests must be made in writing and should be addressed to the Field Supervisor (see ADDRESSES section).

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the *Federal Register* on October 25, 1983 (48 FR 49244).

References Cited

A complete list of all references cited herein, as well as others, is available upon request from the Field Supervisor (see ADDRESSES section).

Author

The primary author of this proposed rule is Robert S. Butler, U.S. Fish and Wildlife Service, Jacksonville Field Office, 6620 Southpoint Drive South, Suite 310, Jacksonville, Florida 32216 (904/232-2580).

List of Subjects in 50 CFR Part 17

Endangered and threatened species. Exports, Imports, Reporting and recordkeeping requirements, and Transportation.

Proposed Regulation Promulgation

PART 17—[AMENDED]

Accordingly, the Service hereby proposes to amend part 17, subchapter B, chapter I, title 50 of the Code of Federal Regulations, as set forth below:

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

2. Section 17.11(h) is amended by adding the following, in alphabetical order under "CLAMS", to the List of Endangered and Threatened Wildlife:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
CLAMS							
Bankclimber, purple	<i>Elliptoides sloatianus</i>	U.S.A. (AL, FL, GA)	NA	T		NA	NA
Moccasinshell, Gulf	<i>Medionidus pencillatus</i>	U.S.A. (AL, FL, GA)	NA	E		NA	NA
Moccasinshell, Ochlockonee	<i>Medionidus simpsonianus</i>	U.S.A. (FL, GA)	NA	E		NA	NA
Pigtoe, oval	<i>Pleurobema pyriforme</i>	U.S.A. (AL, FL, GA)	NA	E		NA	NA
Pocketbook, shiny-rayed	<i>Lampsilis subangulata</i>	U.S.A. (AL, FL, GA)	NA	E		NA	NA
Sixshell, Chipola	<i>Elliptio chipolaensis</i>	U.S.A. (AL, FL)	NA	T		NA	NA
Three-ridge, fat	<i>Ambleria neisleri</i>	U.S.A. (FL, GA)	NA	E		NA	NA

Dated: July 19, 1994

Mollie H. Beattie

Director, Fish and Wildlife Service.

IFR Doc. 94-18923 Filed 8-2-94; 8:45 am

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Fish and Wildlife Service

50 CFR Part 17

RIN 1013-AC 62

Endangered and Threatened Wildlife and Plants; Proposed Rule to List the Arkansas River Basin Population of the Arkansas River Shiner as Endangered

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The U.S. Fish and Wildlife Service (Service) proposes to list the Arkansas River basin population of the Arkansas River shiner (*Notropis girardi*) as an endangered species under the authority of the Endangered Species Act of 1973 (Act), as amended. The Arkansas River shiner is a small fish found in the Canadian (South Canadian) River in New Mexico, Oklahoma, and Texas; and the Cimarron River in Kansas and Oklahoma. A non-native, introduced population occurs in the Pecos River in New Mexico; however, protection for this population is not under consideration. The Arkansas

River basin population is threatened by habitat destruction and modification from stream dewatering or depletion due to diversion of surface water and excessive groundwater pumping, water quality degradation, and construction of impoundments. Incidental capture of the Arkansas River shiner during pursuit of commercial bait fish species, and competition with the introduced Red River shiner (*Notropis bairdi*) may also contribute to reduced population sizes. This proposal, if made final, will implement Federal protection provided by the Act for *Notropis girardi*. Critical habitat is prudent but not currently determinable.

DATES: Comments from all interested parties must be received by October 3, 1994. Public hearing requests must be received by September 19, 1994.

ADDRESSES: Comments and materials concerning this proposal should be sent to: Field Supervisor, Ecological Services Field Office, 222 South Houston, Suite A, Tulsa, Oklahoma 74127. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Ken Collins at the above address (918/581-7458).

SUPPLEMENTARY INFORMATION:

Background

The Arkansas River shiner was first discovered by A. I. Ortenburger in 1926 in the Cimarron River northwest of Kenton, Cimarron County, Oklahoma (Hubbs and Ortenburger 1929). The Arkansas River shiner is a small, robust shiner with a small, dorsally flattened head, rounded snout, and small subterminal mouth (Miller and Robison 1973, Robison and Buchanan 1985). Adults attain a maximum length of 51 millimeters (mm) (2 inches (in)). Dorsal, anal, and pelvic fins all have eight rays and there is usually a small, black chevron present at the base of the caudal fin. Dorsal coloration tends to be light tan, with silvery sides gradually grading to white on the belly. The Arkansas River shiner historically inhabited the main channels of wide, shallow, sandy-bottomed rivers and streams of the Arkansas River Basin. Adults are uncommon in quiet pools or backwaters, and almost never occur in tributaries having deep water and bottoms of mud or stone (Cross 1967).

Adults prefer to orient into the current on the "lee" sides of transverse sand ridges and feed upon organisms washed downstream (Cross 1967). Their food habits have not been recorded but their principal food items are presumed to be small aquatic invertebrates (Gilbert 1978) or plankton (Sublette *et al.* 1990). The Arkansas River shiner spawns in